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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,201	04/09/2004	Siddhartha Panda	FIS920040043US2 (PC6042A)	8235
Eric Strang Suite 10 4350 W. Chandler Blvd. Chandler, AZ 85226			EXAMINER GOUDREAU, GEORGE A	
			ART UNIT 1792	PAPER NUMBER
			MAIL DATE 02/29/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/821,201

Applicant(s)

PANDA ET AL.

Examiner

George A. Goudreau

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1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on (4-2-07' to 7-9-07').
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on (4-2-07' to 7-9-07') has been entered.
2. Applicant's arguments with respect to claims of record have been considered but are moot in view of the new ground(s) of rejection.
3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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5. Claims 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Canale et. al. (6,440,858) further in view of Mimura et. al. (WO-02/23,609).

Canale et. al. disclose a process for rie etching a Si wafer using an etch mask, and a plasma which is comprised of NF₃-HBr-He-O₂. This is discussed specifically in the abstract; and discussed in general in columns 1-10. This is shown in figures 1-19. Canale et. al. fail, however, to specifically disclose the following aspects of applicant's claimed invention:

- the specific usage of the type of etching apparatus which is claimed by the applicant; and
- the specific conduction of a rie etching process with the specific etch process parameters which are claimed by the applicant

Mimura et. al. disclose a parallel plate mrie etching apparatus which is equipped with means for forming a magnetic field with a field strength of (100-1,000) gauss. The magnetic field strength is preferably 100 gauss. The apparatus is equipped with means for admitting a multitude of different gasses through a showerhead (20) in the anode electrode (1). The substrate is electro-statically held on a cathode electrode, which is, biased with two RF power sources. The first power source (15) used to bias the cathode (2) has a frequency of (40-200) MHz. The second power source used to bias the cathode electrode has a frequency of 2 MHz or more. This is discussed specifically in the abstract; and discussed in general on pages 1-27. This is shown in figures 1-9.

It would have been obvious to one skilled in the art to employ the etching apparatus which is taught by Mimura et. al. to conduct the rie etching process which is

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taught by Canale et. al. based upon the following. Miura et. al. teach that it is desirable to use their etching apparatus to conduct a rie etching process. Further, this simply represents the usage of an alternative, and at least equivalent means for conducting the rie etching process which is taught by Canale et. al. to those means which are specifically taught by Canale et. al.

It would have been prima facie obvious to employ any of a variety of different etch process parameters in the etching process which is taught above including those which are specifically claimed by the applicant. These are all well-known variables in the plasma etching art, which are known to affect both the rate and the quality of the plasma etching process. Further, the selection of particular values for these variables would not necessitate any undo experimentation, which would have been indicative of unexpected results.

Alternatively, it would have been obvious to one skilled in the art to employ the specific etch process parameters which are claimed by the applicant in the etching process which is taught above based upon In re Aller as cited below.

Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.≡ In re Aller, 220 F. 2d 454, 105 USPQ 233, 235 (CCPA).

Further, all of the specific process parameters, which are claimed by the applicant, are results affective variables whose values are known to affect both the rate, and the quality of the plasma etching process.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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7. Any inquiry concerning this communication should be directed to examiner

George A. Goudreau at telephone number 571-272-1434.



/George A. Goudreau
Primary Examiner, Art Unit 1792